Public Works (1897) Department.

Print Enclosures

G.O., No. 3159

DATED 25. March 1897

26/3/97

[Despatch Abstract.]

XII Branch Channel, Periyar Project: Revised Estimate of Rs. 70,500 for the —, sanctioned with remarks.

100/4

P.W. 26.
1,500—30-11-96.

TC 25-3

Indexed. 26/3/97

No. 318 I d/25.3.97

Print urgently

12' Branch channel of the Periyar Project

PUBLIC WORKS DEPARTMENT,
IRRIGATION BRANCH.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the

READ the following

From the Supg:Engineer,VI circle,NO:98.M.D.dated 22nd January 1897.

Note by the Chief Engineer for Irrigation,NO:73.I.d/20th March 1897.

The revised estimates, amounting to Rs 70,500, for the XII Branch channel, Periyar Project, are sanctioned in lieu of the provision aggregating Rs 79,700 made for items 344,376,521,522,559 to 561,574 and 626 to 629 of the statement printed in P.M.G. NO:97.I.dated 3rd February 1894, the saving of Rs 9,200 effected by the present estimates being re-served for unforeseen works of the project.

2. This sanction is registered as NO:214.I.of 1896-97.

W.H.
22.3.97

H.E. has made a remark against last para of E.I. Govt.

To

The Chief Engr:for Irrigation.

" Supg:Engr:Sixth circle. with 86 enclos.

" Examiner,P.W.Accounts.

E. I. Form No 1—1,000—27-11-96.

IRRIGATION.
ACCOUNT.

Government {1897} of Madras.

PUBLIC WORKS.

Recd. } 1897. *Enclosures*

Regd. *Spare copies*

G.O., No. 318 I., 25th March 1897.

MARCH.

XII Branch Channel, Periyar Project

Revised estimate of Rs. 70,500 for the —, sanctioned with remarks.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

Read—the following papers :—

From Lieutenant-Colonel O. V. BODDY, R.E., Superintending Engineer, VI Circle, to the Chief Engineer for Irrigation, dated Trichinopoly, 22nd January 1897, No. 98 M.D.

I have the honour to forward, for sanction, revised plans and estimates, the latter amounting to Rs. 70,500, connected with the XII branch channel, Periyár works.

2. This estimate is to supersede that providing the various description of work under the XII branch channel (*see* paragraph 2 of the report attached to the estimate), sanctioned in G.O., No. 97 I., dated 3rd February 1894.

3. A tabular statement is attached to the estimate, which shows the hydraulic details, mileages, &c., of the several works proposed.

4. The estimate shows a saving of Rs. 9,200 over the present sanctioned arrangements, which may be added to the provision for unforeseen works at your disposal.

5. The report attached to the estimate shows clearly what the estimate now submitted provides for. It may be noted that the design for drops is of a different type from that which has hitherto been used. It is considerably more expensive than the former design, but better results are anticipated by its employment.

Enclosures.

Report to accompany estimate for the XII Branch channel, Periyár project.

	RS.
Amount of revised estimate	70,500

General.—This estimate is to supersede that portion of the estimate printed with G.O., No. 97 I. of 3rd February 1894, that refers to the above work.

2. In the sanctioned estimate the amounts for the various works, excavation, regulators, bridges, cross drainage works, &c., are stated separately as follows :—

	RS.	Item Nos.
Land—		
Compensation for land	5,850	344
Regulators—		
3 Regulators	1,440	376
Fall	2,040	521
4 Falls	3,200	522

		RS.	Item Nos.
Bridges—			
Road tunnel	...	1,270	559
Do.	...	960	560
Do.	...	790	561
Earthwork—			
Earthwork	...	54,220	574
Miscellaneous—			
2 Sluices	...	880	626
16 Do.	...	5,280	627
5 Do.	...	1,600	628
7 Do.	...	2,170	629
	Total ...	79,700	

3. The total amount of the revised estimate is Rs. 70,500 leaving a balance of Rs. 9,200 to be credited to unforeseen works, but all the main distributaries of this channel (eleven in number) will have to be provided for out of this fund and their cost may amount to about one lakh.

4. *Works provided for.*—The head sluice or regulator at the head of the channel has been sanctioned in G.O., No. 315 I. of 1st April 1896, and the balance of the amount remaining over the revised estimate amount already credited to unforeseen works.

5. The estimate now submitted makes provision for all works on the main channel excepting head sluices for the major distributaries. A sufficient number of minor sluices are provided either as part of the falls or as separate works.

6. *Duty.*—The works are designed to discharge at full supply one cubic foot per second for every 75 acres, the total acreage being 16,500 acres. Allowance is made for a maximum supply of about 30 per cent. in excess of this.

7. *Distributaries.*—The distributaries have all been carefully aligned and levelled and the area of 16,500 acres is obtained from the ayacut map by omitting all the land not commanded and the tanks to be maintained and taking three-fourths of the balance of unirrigated and the whole of the irrigated land where the latter is in large blocks. It is proposed to use the 6th distributary as a surplus channel and enlarge the Kottagudi tank which lends itself admirably to the purpose so as to prevent any excess water running to waste. A tracing of the ayacut map showing all the proposed distributaries and tanks to be maintained or otherwise, accompanies the estimate.

8. *Falls.*—The number of drops or falls is seventeen, of which four are provided with accommodation bridges, eight with foot bridges and six with sluices, some having both. They are designed from one to three (according to the discharge) trapezoidal vents with projecting lips such that the discharge over the fall at any depth shall approximately be equal to that of the channel at that depth.

9. The use of this design which is strongly recommended by Mr. Buckley was suggested by the present Chief Engineer "for Irrigation" when in charge of this circle, the type in use up to the present on these works having a bad effect on the channel above and below.

10. *Bridges.*—There are two road bridges and seven accommodation bridges for country tracks.

11. *Cross drainage.*—There are in all five cross drainage works, none of them of importance, as the channel through most of its course is in the centre of a ridge.

12. *Land and demarcation.*—Provision is made for acquiring and demarcating land required for the channel.

13. *Rates.*—The rates are, as regards excavation, concrete and masonry, lower than those in use up to the present.

14. All the works will be carried out in accordance with the specification and best practice of the department.

(Signed) T. W. S. SMYTH,
Ex. Engr., Special Periyar Works.

17th November 1896.

Estimate Form—Abstract—Classified.

Sub-head.	Names of works.	Amount of estimate for individual work.	Total of sub-heads.	Total for each canal or distributary.	Total of each main head.	Remarks.
1	2	3	4	5	6	7
	Capital Expenditure not charged to Revenue.	RS.	RS.	RS.	RS.	
	49. *Irrigation.*					
	Periyár Project.					
	I. Works.					
	3. Distributaries.					
	XII. Branch Channel.					
2. Land ..	1. Compensation for land	4,214				
	Total ..	..	4,214			
3. Works ..	2. Drop No. 1 with foot bridge	1,570				
	3. Do. ,, 2	1,160				
	4. Do. ,, 3	1,500				
	5. Accommodation bridge	1,020				
	6. Drop No. 4	1,520				
	7. Do. ,, 5	990				
	8. Accommodation bridge	640				With drop No. 5.
	9. Drop No. 6 with foot bridge	1,540				
	10. Do. ,, 7	1,390				
	11. Do. ,, 8	1,540				
	12. Accommodation bridge	940				
	13. Road bridge	1,160				
	14. Drop No. 9	1,300				
	15. Syphon culvert	720				
	16. Road bridge	1,160				
	17. Accommodation bridge	820				
	18. Drop No. 10	785				
	19. Accommodation bridge	765				
	20. Syphon culvert	620				With drop No. 10.
	21. Do.	800				
	22. Two superpassages, each Rs. 600	1,200				
	23. Drop No. 11	580				
	24. Do. ,, 12	620				
	25. Accommodation bridge	400				With drop No. 12.
	26. Drop No. 13	640				
	27. Do. ,, 14	605				
	28. Do. ,, 15	595				
	29. Accommodation bridge	385				With drop No. 15.
	30. Drop No. 16	605				Same as drop No. 14.
	31. Do. ,, 17 or tail drop	55				
	Total ..	..	27,625			
4. Earthwork.	32. Earthwork	35,281				
	Total ..	..	35,281			
5. Miscellaneous.	33. 6″ earthenware pipe sluices (2), each Rs. 70.	140				
	34. Sluice at left side	275 }				With drop No. 5.
	35. Do. at right side	265 }				
	36. Two sluices, each Rs. 310	620				Do. ,, 6.
	37. 6″ earthenware pipe sluice, left bank ..	70				
	38. 9″ do. do. do. ..	95				
	39. 6″ do. do. do. ..	70				
	40. 9″ earthenware pipe sluices (2), each Rs. 95.	190				
	41. 6″ earthenware pipe sluice, right bank ..	70				
	42. 9″ do. left bank ..	95				
	43. Two sluices, each Rs. 170	340				With drop No. 11.
	44. Do. each ,, 170	340				Do. ,, 13.
	45. Do. each ,, 155	310				Do. ,, 14.
	46. Two 9″ earthenware pipe sluices, each Rs. 95.	190				
	47. Two sluices, each Rs. 155	310				With drop No. 14.
	Total ..	..	3,380			
	Grand Total ..	..	70,500	70,500	70,500	

21st January 1897. (Signed) O. V. BODDY, Lt.-Col., R.E.,
Superintending Engineer, VI Circle.

No. 73 I.

Note by the Chief Engineer for Irrigation.

Revised Estimate for XII Branch Channel.

It has been found necessary to entirely re-align the channel and recast the designs and estimate. The revised estimate amounts to Rs. 70,500, or Rs. 9,200 less than the sanctioned amount; but as it includes some very uncertain items, it cannot be regarded as altogether certain that there will be this saving. All that can be said is that the estimate has been framed on the best data obtainable.

2. The irrigable area has been obtained by taking the whole of the present wet lands and three-fourths of the area of dry lands and abandoned tanks which are commanded. The amount thus arrived at is 16,500 acres, for which the Executive Engineer has provided an ordinary supply of one cubic foot per second for every 75 acres and a maximum supply of one-third in excess of this. This is ample for the present, and should a larger supply be required at any time hereafter, it will only be necessary to strengthen the banks and run the channels little deeper.

3. With regard to the design of masonry works it is considered that those for the bridges and cross drainage works are suitable. Seventeen drops are provided; nine of these are designed with sluices or bridges built in connection with them founded at a much higher level than the drops and partly on made soil. All such sluices and bridges should be built separate and at least 20 feet away from the drops. The plans of the drops seem likely to require, in many cases, alteration in detail, but the alterations cannot be made until the sites are partly excavated. The level of soft rock, as entered on the plans, is generally 2 or 3 feet below the ground, while the sunk floor of the water cushion is 7 to 9 feet, and a couple of feet of masonry is allowed below this. The Executive Engineer will have to get each site uncovered and the level of hard rock ascertained. The section of the drops can then be modified to suit the site.

4. The Executive Engineer thinks that the cost of the distributaries, which are not allowed for in this estimate, may amount to one lakh. It is no doubt a difficult country to distribute water in economically, but an endeavour must be made to keep the estimate down as low as possible. One of the proposals is to enlarge the tank in which the 6th distributary terminates, but to supply it the distributary which will be 5 miles long would have to be of large capacity. The proposal has little to recommend it and will be abandoned. All the channels are designed to carry the supply corresponding to the acreage commanded, and as every branch channel and the more important distributaries from it end in tanks which will retain the excess water when cultivation to the full extent is not in progress, there is no special reason for providing any surplus channel such as it is proposed to make the 6th distributary. There may be special reasons for enlarging the Kottagudi tank so as to impound more local drainage, but the distributary must be restricted in capacity to the normal requirements for the irrigation under it.

5. The estimate is recommended for sanction. Any alteration which may be required in the masonry works will not cause any excess. The Executive Engineer states that he has provided lower rates than have been previously paid. It is presumed that he has fully satisfied himself that the work can be done for what is allowed.

Madras,
20th March 1897.

(Signed) W. HUGHES,
Chief Engineer for Irrigation.

Order—No. 318 I., dated 25th March 1897.

The revised estimates, amounting to Rs. 70,500, for the XII branch channel, Periyár project, are sanctioned in lieu of the provision aggregating Rs. 79,700 made for items 344, 376, 521, 522, 559 to 561, 574 and 626 to 629 of the statement

printed in Proceedings of Madras Government, No. 97 I., dated 3rd February 1894, the saving of Rs. 9,200 effected by the present estimates being reserved for unforeseen works of the project.

2. This sanction is registered as No. 214 I. of 1896–97.

(True Extract.)

Under Secy. to Government,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, VI Circle, with eighty-six enclosures.
" Examiner, Public Works Accounts.

Exd. T. K. Narayana Aiyangar.

Public Works (1897) Department

NO:73.I. Current No: 3076

Note by the Chief Engineer for Irrigation.

Recd: 25.3.97

Enclos: 89 (+30 Plans)

Revised estimate for 12th Branch Channel.

It has been found necessary to entirely re-align the channel and re-cast the designs and estimate. The revised estimate amounts to Rs 70,500 or Rs 9200 less than the sanctioned amount, but as it includes some very uncertain items it cannot be regarded as altogether certain that there will be this saving. All that can be said is that the estimate has been framed on the best data obtainable.

2. The irrigable area has been obtained by taking the whole of the present wet lands and three-fourths of the area of dry lands and abandoned tanks which are commanded. The amount thus arrived at is 16,500 acres for which the Executive Engineer has provided an ordinary supply of 1 c.ft: per second for every 75 acres and a maximum supply of one-third in excess of this. This is ample for the present and should a larger supply be required at any time hereafter it will only be necessary to strengthen ~~the~~ banks and run the channels a little deeper.

3. With regard to the design of masonry works it is considered that those for the bridges and cross drainage works are suitable. Seventeen drops are provided; 9 of these are designed with sluices or bridges built in connection with them founded at a much higher level than the drops and partly on made soil. All such sluices and bridges should be built separate and at least 20 feet away from the drops. The plans of the drops seem likely to require in many cases alteration in detail but the alterations cannot be made until the sites ~~is~~ are partly excavated. The level of soft rock as entered on the plans is generally two or three feet below the ground while the sunk floor of the water cushion is

7 to 9

7 to 9 ft: and a couple of feet of masonry is allowed be-low this. The Executive Engineer will have to get each site uncovered and the level of hard rock ascertained. The section of the drops can then be modified to suit the site.

4. The Executive Engineer thinks that the cost of the distributaries, which are not allowed for in this esti-mate may amount to one lakh. It is no doubt a difficult country to distribute water in economically but an en-deavour must be made to keep the estimate down as low as possible. One of the proposals is to enlarge the tank in which the 6th distributary terminates but to supply it the distributary which will be 5 miles long would have to be of large capacity. The proposal has little to recom-mend it and will be abandoned. All the channels are de-signed to carry the supply corresponding to the acreage commanded and as every branch channel and the more im-portant distributaries from it end in tanks which will retain the excess water when cultivation to the full ex-tent is not in progress there is no special reason for providing any surplus channel such as it is proposed to make the 6th distributary. There may be special reasons for enlarging the Kottagudi Tank so as to impound m[illegible] more local drainage but the distributary m[illegible] must be restricted in capacity to the normal requirements for the irrigation under it.

5. The estimate is recommended for sanction. Any alteration which may be required in the masonry works will not cause any excess. The Executive Engineer states that he has provided lower rates than have been previous-ly paid. It is presumed that he has fully satisfied him-sef that the work can be done for what is allowed.

W. Hughes

Chief Engineer for Irrigation.

M A D R A S.

20th March 1897.

To The Joint Secretary to Government

Public Works Department, Irrigation branch

Public Works (1897) Department.

CURRENT No. 15 M D.

Order

From

The Supd. Engineer
6th circle

No. 98 M D.

Dated 22nd January 1897

Received

Enclosures 58.

Spare copies

SUBJECT.

XII Branch channel Periyar Project works – Forwards for sanction revised plans and Estimates amounting to 70,5[illegible] connected with the –

BACK PAPERS.

No.	Date.

FURTHER PAPERS.

No.	Date.

No. 66 E of 17th
2 Nov 96.

21

Report to accompany estimate for the XIIth Branch Channel Periar Project.

Amount of Revised Estimate Rs. 70500

General

1. This Estimate is to supersede that portion of the estimate printed with G.O. No 97.I. of 3 Feb 1894 that refers to the above work.

2. In the sanctioned Estimate the amounts for the various works, excavation, regulators bridges Cross drainage works &c. are stated separately as follows:—

		Rs.	Item Nos
Land –	Compensation for land	5850	344
Regulators	3 Regulators	1440	376
	4 Fall	2040	521
	3 Falls	3200	522
Bridges	Road Tunnel	1270	551
	"	960	560
	"	790	561
Earthwork	Earthwork	54220	574
Miscellaneous	2 Sluices	880	626
	16 "	5280	627
	5 "	1600	628
	7 "	2170	629
	Total	Rs 79700	

3. The total amount of the revised estimate is Rs ~~71130~~ 70500 leaving a balance of Rs ~~8570~~ 9200 to be credited to unforeseen works, but all the main distributaries

distributaries of this Channel eleven in number will have to be provided for out of this fund and their Cost may amount to about one lakh.

4. The head Sluice or Regulator at the head of the Channel has been sanctioned in G. O. No. 315. I. 1 april 1896 and the balance of the amount remaining over the revised Estimate amount already credited to unforeseen works. — works provided for —

5. The estimate now submitted makes provision for all works on the main Channel excepting Head Sluices for the major Distributaries. A sufficient number of minor Sluices are provided either as part of the falls or as separate works.

6. The works are designed to discharge at full supply one cubic ft per second for every 75 acres, the total acreage — Duty

being 16500 acres. Allowance is made for a maximum supply of about 30 per cent in excess of this

Distributaries 7. The Distributaries have all been carefully aligned and levelled and the area of 16500 acres is obtained from the ayacut map by omitting all the land not commanded and the tanks to be maintained and taking 3/4ths of the balance of unirrigated and the whole of the irrigated land where the latter is in large blocks. It is proposed to use the 6" Distributary as a surplus channel and enlarge the Kottagudi Tank which leads itself admirably to the purpose so as to prevent any excess water running to waste. A tracing of the ayacut map showing all the ~~painted~~ proposed distributaries and tanks to be maintained or otherwise, accompanies the Estimate.

8. The number of Drops or Falls is Seventeen. of which Four are provided with accomodation bridges; Eight, with foot bridges and Six with Sluices, some having both. They are designed from one to three (according to the discharge) trapizoidal vents with projecting lips such that the discharge over the fall at any depth shall appoaximately be equal to that of the Channel at that depth. Falls.

9. The use of this design which is strongly recommended by Mr. Buckley was suggested by the present Chief Engineer "For Irrigation" when in charge of this Circle. the type in use up to the present on these works having a bad effect on the Channel above and below.

10. There are two road bridges and Seven. accomodation bridges for Country tracks. Bridges.

J N E 481

Cross Drainage. 11. There are in all Five cross drainage works none of them of importance as the Channel through most of its course is in the centre of a ridge.

Land & Demarcation 12. Provision is made for acquiring and demarcating land required for the Channel

Rates – 13. The rates are as regards excavation Concrete and Masonry lower than those in use up to the present.

14. All the works will be carried out in accordance with the Specification and best practice of the Department

F W Smyth
Executive Engineer
Special Periar Works.
17-11-96

...NEER
...ON.
20 JAN 97
No. 15 Ind

41

P.W. E.I / 3076/97

ESTIMATE FORM—Abstract—Classified.

Sub-head.	Names of Works.	Amount of Estimate for individual Work.	Total of Sub-heads.	Total for each Canal or Distributary.	Total of each main head.	Remarks.
1	2	3	4	5	6	7
	XII Branch channel				~~Periyar Works~~ -	
	Capital Expenditure not charged to Revenue					
	49 Irrigation Periyar Project I Works. 3. Distributaries					
2-Land	1 Compensation for land	4214 ✓				
	Total Rupees	4214	4214 ✓			
3-Works	2 Drop No. 1 with foot bridge	1570 ✓				
	3 Do No. 2	1160 ✓				
	4 Do No. 3	1500 ✓				
	5 Accomodation bridge	1020 ✓				
	6 Drop No. 4	1520 ✓				
	7 Drop No. 5	990 ✓				
	8 Accomodation bridge	640 ✓				With Drop No. 5
	9 Drop No. 6 with foot bridge	1540 ✓				
	10 Drop No. 7	1390 ✓				
	11 Do No. 8	1540 ✓				
	12 Accomodation bridge	940 ✓				
	13 Road bridge	1160 ✓				
	14 Drop No. 9	1300 ✓				
	15 Syphon Culvert	720 ✓				
	16 Road bridge	1160 ✓				
	17 Accomodation bridge	820 ✓				
	18 Drop No. 10	785 ✓				
	19 Accomodation bridge	765 ✓				With Drop No. 10
	20 Syphon culvert	620 ✓				
	21 Do Do	800 ✓				
	C. O.	21940 ✓	4214 ✓			

Station }
Dated 188 . }

Executive Engineer.

P. W. D. Madras.
Form No. M. 77 g.

REFERENCE TO MADRAS P. W. D. CODE.

CHAPTER VII—PARAS 968 & 968 A.

ESTIMATE FORM—ABSTRACT CLASSIFIED.

IRRIGATION.

__________ CIRCLE.

DIVISION—

DISTRICT—

To accompany the Detailed Estimate No.

of 188 -8 , for *

* Here enter the Name and Description of work in full.

ESTIMATE FORM—ABSTRACT—CLASSIFIED.

Sub-head.	Names of Works.	Amount of Estimate for individual Work.	Total of Sub-heads.	Total for each Canal or Distributary.	Total of each main head.	REMARKS.
1	2	3	4	5	6	7
	B. F.	21940	4214			
3. Works	22 2 Superpassages each (600)	1200				
	23 Drop No. 11	580				
	24 Do No. 12	620				
	25 Accomodation bridge	400				With Drop No. 12
	26 Drop No. 13	640				
	27 Do No. 14	605				
	28 Do No. 15	595				
	29 Accomodation bridge	385				With Drop No. 15
	30 Drop No. 16	605				Same as Drop No. 14
	31 Drop No. 17 or Tail drop	55				
	Total Rupees	27625	27625			
4-Earthwork	32 Earth work	35281				
	Total Rupees		35281			
5 Mis:	33 6" Earthenware pipe sluice 2 each (70)	140				
	34 Sluice at left side	275				With Drop No. 5
	35 Do at right do	265				
	C. O.	680	67120			

STATION
Dated 188 .

Executive Engineer.

P. W. D. Madras
Form No. M. 77 g.

REFERENCE TO MADRAS P. W. D. CODE,

CHAPTER VII—PARAS 968 & 968 A.

ESTIMATE FORM—ABSTRACT CLASSIFIED.

IRRIGATION.

CIRCLE.

DIVISION—

DISTRICT—

To accompany the Detailed Estimate No.

of 188 -8 . for *

* Here enter the Name and Description of work in full.

ESTIMATE FORM—Abstract—Classified.

Sub-head.	Names of Works.	Amount of Estimate for individual Work.	Total of Sub-heads.	Total for each Canal or Distributary.	Total of each main head.	Remarks.
1	2	3	4	5	6	7
	B. F.	680	67120			
5 Mis: 36	2 Sluices each (310)	620	✓			With drop No. 6
37	6" Earthenware pipe Sluice L-B	70	✓			
38	9" Do Do L-B	95	✓			
39	6" Do Do L-B	70	✓			
40	9" Do Do 2 each (95)	190	✓			
41	6" Do Do R.B	70	✓			
42	9" Do Do L-B	95	✓			
43	2 Sluices each (Rs 170)	340	✓			With drop No. 11
44	2 Do Do (Rs 170)	340	✓			Do Do No. 13
45	2 Do Do (Rs 155)	310	✓			Do Do No. 14
46	2 9" Earthenware pipe					
47	Sluice each (Rs 95)	190	✓			
48	2 Sluices Do (Rs 155)	310	✓			With drop No. 14
	Total Rupees	3380	3380			
	Grand total Rupees		70,500	70,500	70,500	

Station

Dated 188 } checked 11/3

O. C. Dobbs? Lt Col R.E. ~~Executive Engineer~~.

21-1-97 Supdg. Engineer 6th Circle

P. W. D. Madras.
Form No. M. 77 g.

Reference to Madras P. W. D. Code.

Chapter VII—Paras 968 & 968 A.

ESTIMATE FORM—Abstract Classified.

IRRIGATION.

_______________ Circle.

Division—

District—

To accompany the Detailed Estimate No.

of 188 -8 . for *

* Here enter the Name and Description of work in full.

(P.W.(I)) 1P

No. 98 M.D. Office of the Supg. Engr. 6th Circle.

Trichinopoly 22nd January 1897

D/24.

From

Lieutt. Col. O. V. Boddy R.E.,

Supg. Engineer, 6th Circle.

To

The Chief Engineer for Irrigation

Madras.

Enclosures. 58.*

5. Tracings of Longl. section.

2. -do.- plans of pipe sluices.

3. -do.- do of cross drainage works.

4. do. do. of Bridges

1. -do.- do of Drops.

1. -do.- of ayacut survey.

1. General abstract Estd. with report &c

1. Detail Estimate book for earth work.

16. Estes. for Drops &c

4. -do.- for Bridges

4. -do.- for cross drainage works

2. -do.- for Pipe sluices.

58

* Sent by Book Post in two bundles, one contains Enclo: 1 to 17 & the other 18 to 58.

Sir,

I have the honor to forward for sanction revised plans and Esti-mates, the latter amounting to Rs. 70,500 connected with the XII branch channel, Periyar works.

2. This Estimate is to supersede that providing the various description of work under the 12th branch channel (see para 2 of the report attached to the Estimate), sanctioned in G. O. No. 97 I dated 3rd February 1894.

3. A tabular statement is attached to the Estimate which shows the hydraulic details, mileages &c of the several works proposed.

4. The Estimate shows a saving

of

of Rupees 9,200 over the present sanction-
-ed arrangements, which may be added
to the provision for unforeseen works
at your disposal.

CHIEF ENGINEER
FOR IRRIGATION
20 JAN 97
No. 15 Mid

5. The Report attached to the
estimate shows clearly what the esti-
-mate now submitted provides for.
It may be noted that the design
for drops is of a different type
from that which has hitherto been
used. It is considerably more
expensive than the former design,
but better results are anticipated
by its employment.

I have the honor to be

Sir

Your most obdt. servt.

P.W.E. 89 / 3076/97

O. C. Bradley Lieutt.: Col. R.E.

Supg. Engineer, 6th Circle.

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